

Response to Office Action of 12/12/2005

Application/Control Number 10/512,027

Original Claim 1:

9020. We claim:

9021. 1. A game consisting of a plurality of playing pieces, each said piece being simultaneously an element of an even number of at least four distinct series, each said series being comprised of the numbers 1 to 9, with each said series being extended by following the 9th element with the element 1, then 2, and so on repeatedly; and

wherein the four or more series on each piece are grouped into series pairs, with the elements of each series pair totaling the number nine on each playing piece, except in the case where all the four series elements on a piece are the element 9.

Revised Claim 1:

9021. We claim:

9022. 1. A game consisting of a plurality of playing pieces, with each piece being simultaneously an element of an even number of at least four distinct series, and with each series being comprised of the numbers 1 to 9 and being extended by following the 9th element with the element 1, then 2, and so on repeatedly, with the four or more series on each piece grouped into series pairs, with the elements of each series pair totaling the number nine on each playing piece, except in the case where all the four series elements on a piece are the element 9.

We attach at the end of this Response a complete set of the Claims 1-20 rewritten in this fashion in order to improve their clarity. No new scope is claimed by this rewrite, which is strictly a grammatical revision. If it is permitted please replace the original Claims 1-20 with these Revised Claims.

The assertion in this Rejection is that this Claim "is not tangible and appears to be rules for playing." This statement is not correct, because the above Claim 1 is a description for

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how the tiles are manufactured. For example, one tile is clearly made like this (here fonts are used to distinguish the four series):

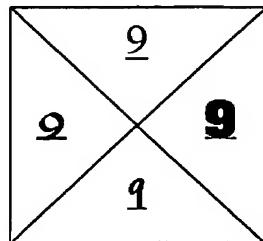


Fig. 1

If the series increase in direction the triangles are pointing, the surrounding tiles *must be manufactured* in the following manner in order to conform with Claim 1:

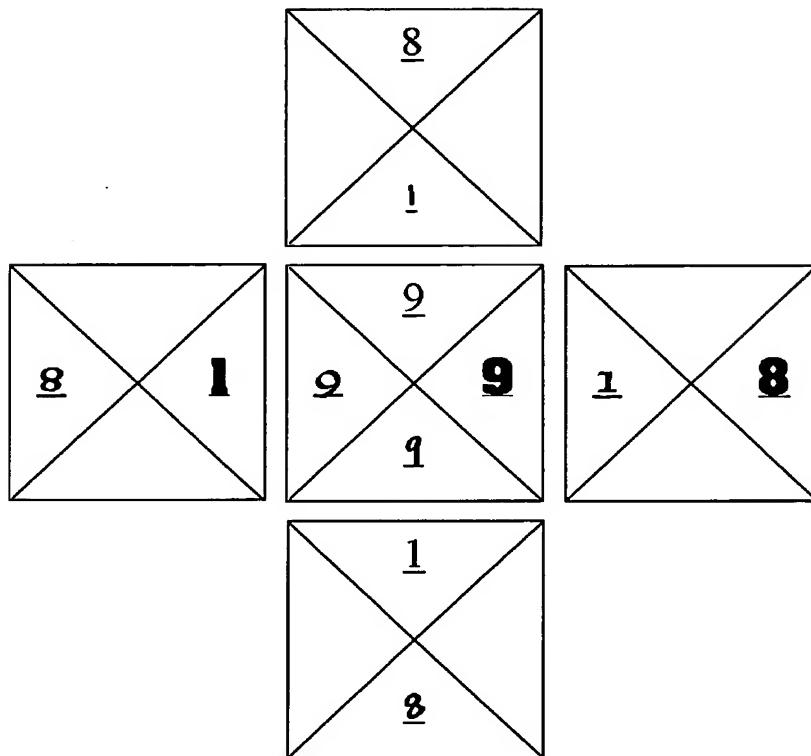


Fig. 2

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The only “rule” involved in the manufacture of these tiles is the increase of the series in the direction that the triangle points. If the opposite rule is chosen (increase each series in the direction of the base of the triangle) then a slightly different set of pieces would be manufactured to conform to Claim 1 (the 8’s and the 1’s are interchanged on each tile), but they are equally determined. It is indeed the objective of Claim 1 to focus on the construction of the tiles independent of the rules. Because by Claim 1 the elements form a *series*, there are only two ways to do this (the series runs up, or it runs down.) Claim 1 does allow for the manufacture of the tiles for both ways, and is therefore independent of any rule.

Now, consider the missing elements in Fig. 2. These are illustrated in Fig. 3 for one way of manufacturing the tiles:

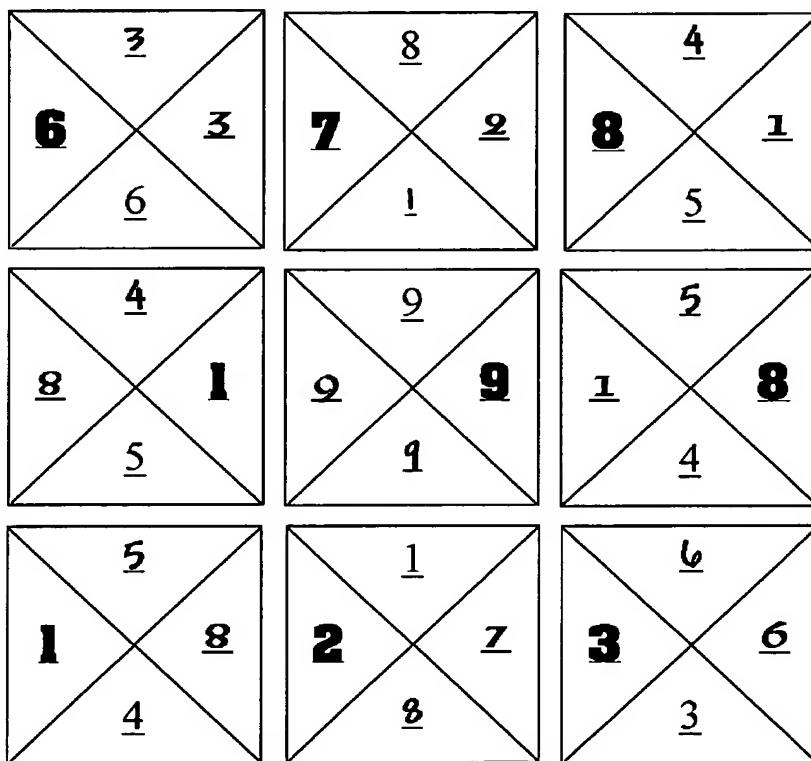


Fig. 3

This embodiment requires 18 different tile surfaces, of which nine are illustrated in Fig. 3. The 18 tiles are replicated as necessary to create the game. The other nine have the

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same numbers on each tile, but the alternative series assignment. For example in the case of the nine's tile, the two formats are:

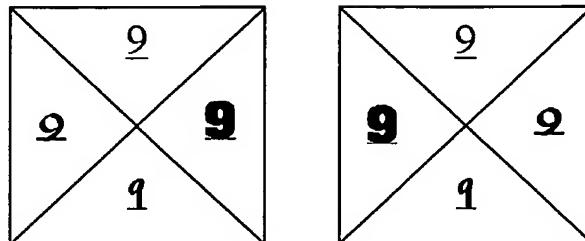


Fig. 4

Claim 1 covers any game created by manufacturing these tiles this way.

It is legitimate to ask whether Fig. 3 is the only way to fill in the blanks in Fig. 2. The answer is, "No." Fig. 5 shows another arrangement:

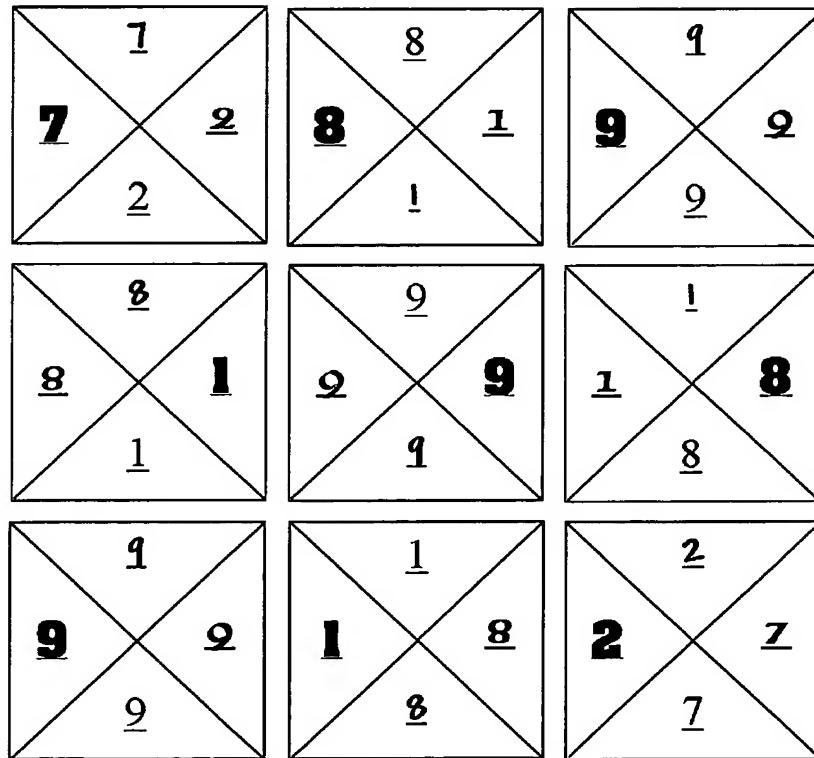


Fig. 5

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Once again there are 18 different tiles making up the game, but these tiles always have 2 sets of duplicate numbers on each tile. This version has other regularities that would make it easier to play. Claim 1 fully covers this method of manufacturing the tiles.

Tiles manufactured according to Claim 1 can have some very unexpected properties. We point this out as further evidence that Claim 1 is about the construction of the tiles, and not about the rules of a game that uses the tiles. If Claim 1 just incorporated rules for playing, then the tiles so created would have no special properties beyond the rules incorporated, but if Claim 1 is about the structure of how the tiles are built, then it is possible that the tiles would have physical properties that cannot be derived from any rules of a game.

Fig. 6 shows nine tiles constructed according to the specifications in Claim 1. Rather than horizontally and vertically, these series run along the diagonals. These tiles have been manufactured with an implicit rule that the series increases towards the center of the tile, but the opposite rule is as before equally covered by Claim 1.

8	2	2	5	5	8
7	1	4	7	1	4
6	6	9	9	3	3
3	3	1	9	6	6
4	1	7	4	1	7
8	5	5	2	2	8

Fig. 6

For a game using these tiles, only these nine tile surfaces need to be manufactured. These are then replicated as necessary to supply the complete set of tiles for a game. Notice how they can be combined to extend the pattern:

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A. The nine tiles in Fig. 6 are replicated on the right, but the whole set is turned upside-down by rotating to whole block of nine tiles 180 degrees (the numbers remain upright to aid reading.)

8	2	2	5	5	8	8	2	2	5	5	8
7	1	4	7	1	4	7	1	4	7	1	4
6	6	9	9	3	3	6	6	9	1	3	3
3	3	1	9	6	6	3	3	9	9	6	6
4	1	7	4	1	7	4	1	7	4	1	7
8	5	5	2	2	8	8	5	5	2	2	8

Fig. 7

Tiles manufactured in this way in accordance with Claim 1 will preserve all the multiple series. This is a function of how the tiles are made, not any rule of any game.

B. Similarly, Fig. 8 shows that the tiles in Fig. 6 are replicated to the left, but after rotating the nine tiles 180 degrees to invert them:

8	2	2	5	5	8	8	2	2	5	5	8
7	1	4	7	1	4	7	1	4	7	1	4
6	6	9	9	3	3	6	6	9	1	3	3
3	3	9	9	6	6	3	3	9	9	6	6
4	1	7	4	1	7	4	1	7	4	1	7
8	5	5	2	2	8	8	5	5	2	2	8

Fig. 8

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C. Furthermore Fig. 9 shows the tiles manufactured as in Fig. 6 have the property that each column of three tiles is replicated above, but to the right one column, and also replicated below, but to the left one column:

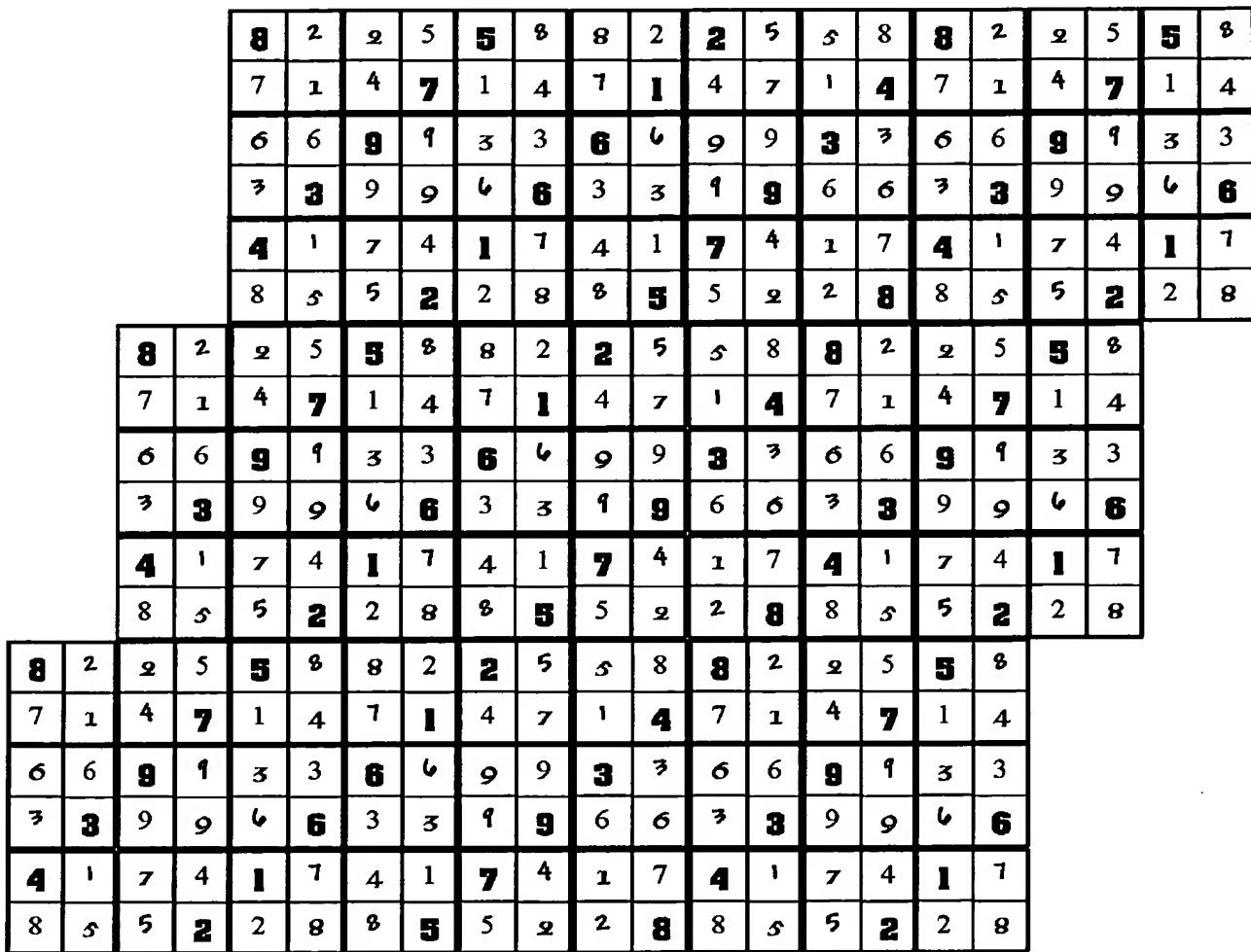


Fig. 9

These transformations preserve the continuity of the four series on each of the tiles. This is a property of the way that the tiles have been manufactured. There is nothing for example in the rules of a game using these tiles, that would suggest that the nine tiles

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illustrated in Fig. 6, could be inverted and placed to the right and left, or placed above shifted right a column, or below shifted left a column, to continue the four series on each tile. Such physical properties of the tiles can only have their origin in the design and manufacture of the tiles themselves.

The assertion in Rejections 1. & 2. that the "*Claim limitations ... have no clear meaning*" may have its origin in the fact that the Claims 1-20 cover a wide number of ways of manufacturing the game tiles, and a large number of potential games, all of preferred embodiment. Due to this fact, these Claims may not appear to be quite as explicit as those for some other, single games. We have had to make the Claims broad in order to claim the entire manufacturing scope of the invention. While this may be unusual, it is necessary in order to cover the intended domain.

Finally, we would like briefly to address the additional assertions made in Rejections 1. & 2.

This patent has not been translated from a foreign language into English. The Inventors are U.S. citizens, born, raised, and educated through college level and beyond in the United States, as were their parents. English has been the only language spoken at home.

We do not find any grammatical errors or idiomatic errors in the original Claims 1-20, the presence of which are asserted by the Rejection. We do admit to a bit of stilted legal language, and refer to the Revised Claims at the close of this Response for clarification.

The assertion that the Claims fail "to conform with current U.S. practice" is not correct in our experience. The language and style of the claims are copied from the previous patents written by the Inventors and already approved by the U.S. Patent Office: U.S. Patent number 6,067,412, number 5,574,854 and number 5,752,038. These patents were prepared with the assistance of professional patent attorneys, who took pains to instruct the Inventors that each Claim is best formed as a single sentence in order to aid it being

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Revised Claims

9020. We claim:

9021. 1. A game consisting of a plurality of playing pieces, with each piece being simultaneously an element of an even number of at least four distinct series, with each series being comprised of the numbers 1 to 9 and being extended by following the 9th element with the element 1, then 2, and so on repeatedly, with the four or more series on each piece grouped into series pairs, with the elements of each series pair totaling the number nine on each playing piece, except in the case where all the four series elements on a piece are the element 9.

9022. 2. The game of claim 1 with the front surface of the playing pieces divided into possibly separable sections, one for each distinct series of which the playing piece is a member, with each section bearing a unique marking associated with and identifying the series of which it is a member, and each section being further marked with an indicium representing the element of the series of which the section is a member.

9023. 3. The game of claim 2 where the playing pieces are square tiles.

9024. 4. The game of claim 2 where the indicia representing the elements of the series of which each quadrant is a member are represented by numbers.

9025. 5. The game of claim 2 where the playing pieces are square or hexagonal tiles, and where the sections covering the front surface of the tile are possibly separable isosceles triangles.

9026. 6. The game of claim 5 where each of the isosceles triangle sections covering the front surface of the tile is subdivided into 9 equal-sized smaller isosceles triangles which fill the section, where any side adjacent triangles of the 9 triangles are inverted, all 9 being arranged in a pattern of 5 side-adjacent triangles with the hypotenuse of the center triangle coincident with the outer border of the tile, next to which are 3 side adjacent triangles with the isosceles vertex of the central triangle coincident with the isosceles vertex of the central triangle of the first 5 triangles, next to which is one triangle whose hypotenuse is coincident with

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the hypotenuse of the central triangle of those 3 triangles, and whose isosceles vertex is coincident with the center of the tile.

9027. 7. The game of claim 5 where each isosceles triangle section covering the surface of the tile contains from one to nine geometric or schematic indicia indicating the element of the series of which the quadrant is a member, arranged in three stacked rows of five, three, and one indicia, with the row of five indicia being located to the outside of the tile, the row of one indicium being located in the isosceles vertex of the triangle, and the row of three indicia being located between the row of five indicia and the row of one indicium.

9028. 8. The game of claim 7 where the schematic indicia are embossed on the front surface of the tile.

9029. 9. The game of claim 3 where the sections covering the front surface of the tile are possibly separable squares, and where the game is played on a game board.

9030. 10. The board game of claim 9 where the indicia representing the elements of the series of which each quadrant is a member are comprised of a set of schematics with no intrinsic orientation embossed on the front surface of the tile to enable the element number and the series of which it is a member to be accessible to the blind.

9031. 11. The board game of claim 9 where the indicia representing the elements of the series of which each quadrant is a member are represented by a pattern of geometric, schematic, or other shapes, one such shape for each quadrant, arranged as the numbers on ordinary playing cards Ace through 9.

9032. 12. The board game of claim 9 where the indicia representing the elements of the series of which each quadrant is a member are a set of nine small squares in a three by three pattern, with the number of the small squares marked with a distinct pattern or color indicating the element of the series of which the quadrant is a member and identifying said series, with the nine squares being arranged so that the first marked square is placed on either the innermost or outermost square in a quadrant, and as subsequent squares are added to increase the element count in a quadrant, they are added side adjacent to the previous

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squares in a clockwise or a counter-clockwise spiral, so that the board game where a minimal set of nine distinct playing tile front surface patterns form a minimal spanning set which when replicated are sufficient to fill the entire game board with tiles, and where the game board is a square, and where the game board is marked into squares the size of the square playing pieces.

9033. **13.** The game board of claim **12** where the game board is divided into two equal-sized rectangular halves to aid in manufacturing, packaging, and shipping, as well as stacking, moving, and storing games in progress, with the halves being placed side adjacent for game play.

9034. **14.** The game board of claim **12** wherein the game board is comprised of an 18 by 18 matrix of 324 squares.

9035. **15.** The game board of claim **12** in which two or more Anchor Tiles are permanently affixed to the board to set the pattern for game players and to prevent the evolution of nonintersecting series during game play.

9036. **16.** The game board of claim **12** in which four Anchor Tiles are permanently affixed to the board to set the pattern for game players, to prevent the evolution of nonintersecting series during game play, and to retain the aesthetic symmetry of the game board.

9037. **17.** The board game of claim **12** in which the image imprinted on the game board surface is an enlargement of an image created by a minimal spanning set of the playing pieces.

9038. **18.** The board game of claim **17** in which the game board is divided into the nine equal-sized pieces identical to but an enlargement of the nine minimal spanning set of playing pieces, thereby enabling the use of said nine game board pieces as playing pieces on a similarly marked, larger game board.

9039. **19.** The board game of claim **17** in which the back surface, or the sides, or both the back surface and the sides of the playing pieces are imprinted with the mirror image of the image on the game board, such that a legal placement of a playing piece on the game board entails matching the image on the back surface, or the sides, or both the back surface and the sides of the playing piece with the

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image in the corresponding location on the game board onto which the playing piece is being placed.

9040. **20.** The board game of claim 19 where a schematic representing the series corresponding to the pattern or color on the back surface and/or sides of each tile is embossed on the back surface of the tile, and the squares on the game board having like pattern or color are recessed to receive said schematic, thus rendering the game accessible to the blind.